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EXAMINER	
MCCLAIN-COLEMAN, TYNESHA L.	
ART UNIT	PAPER NUMBER
1784	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/579,166	VALDES EDWARDS, JUAN IGNACIO	
	Examiner	Art Unit	
	TYNESHA MCCLAIN-COLEMAN	1794	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *09 October 2009 and 23 December 2009*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-5* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-5* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. The amendments filed on October 9, 2009 and December 23, 2009 are acknowledged. Claims 1-5 are pending in the application.

Claim Rejections - 35 USC § 103

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

3. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

4. Claims 1-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Mitsuda et al.* US4396636 (hereinafter "*Mitsuda*") in view of *Mayr et al.* in "Rapid Detection of Meat Spoilage by Measuring Volatile Organic Compounds by Using Proton Transfer Reaction Mass Spectrometry", August 2003, Applied and Environmental Microbiology-Volume 69-Number 8, Pages 4697-4705 (hereinafter "*Mayr*").

5. With respect to claim 1, *Mitsuda* discloses a method for producing frozen-food from a fresh food, such as fish, shellfish, or meat (column 1, lines 4-6). In example 2, three young yellowtails were slaughtered. From the *Mitsuda* disclosure, it is expected that the fish were filleted (letter a) during the slaughtering step so that the fish are

appropriately prepared for human consumption. In example 2, *Mitsuda* discloses each fish was subjected to the step of quick chilling by blowing nitrogen gas of -100˚C for 10 minutes so that the center became -6˚C for each yellowtail (letter b) (column 6, lines 43-60).

6. In example 3 of the *Mitsuda* disclosure, three hyporhamphus were used, and they have previously undergone the step of quick chilling. Next, the temperature of the nitrogen gas blowing onto the food was changed to -30˚C and maintained at that level for 40 minutes so that each food is gradually chilled to reach -20˚C at its center (letter e). Then, these foods were stored at -18˚C for eight months (letter f), with each being packaged by a polyethylene bag (letter c) (column 8, lines 6-11).

7. From the *Mitsuda* disclosure, it is expected that frozen fish and meat can be defrosted and should be consumed within 3 days in order to avoid spoilage and a decrease in freshness of the product (letter g)

8. However, *Mitsuda* does not disclose that the fish or meat pieces are packaged in the claimed special packaging (letter c) and does not disclose the claimed high vacuum packaging step (letter d).

9. *Mayr* discloses that meat pieces of beef and pork were vacuum packaged individually (letter d) in vacuum bagging film (polyamide-polyethylene [Packartis]) (letter c) by evacuating the package (97 to 99% vacuum) and sealing (page 3, Packaging and Storage). According to *Mayr*, the shelf life of meat is considerably increased by vacuum packaging instead of air packaging. *Mayr* discloses that when O_2-impermeable packaging is used, the growth of gram-positive bacteria, mostly lactic acid bacteria, is

favored because of increased CO_2 levels and a lowered oxidation-reduction potential. These organisms typically cause a decrease in pH and create an unfavorable environment for most food-borne pathogens and gram-negative bacteria. Under aerobic conditions, they cannot compete with gram-negative spoiling organisms due to much longer generation times (Discussion, 2nd paragraph).

10. The polyamide-polyethylene packaging material disclosed by *Mayr* possesses high gas barrier properties (such as oxygen and carbon dioxide), has low water vapor transmission rates, is durable over a wide range of temperatures, and has the ability to endure vacuum sealing temperatures (letter c).

11. It would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the packaging material used by *Mitsuda* with the packaging and vacuum system taught by *Mayr*.

12. One having ordinary skill in the art would have been motivated to do this because vacuum packaging coupled with the use of the polyamide-polyethylene material not only extends the typical shelf life of food, but it also provides anaerobic conditions in within the package. This system minimizes the growth and multiplication of microorganisms, thus allowing the freshness of the meat or fish product to be preserved longer.

13. Regarding claim 2, the polyamide-polyethylene packaging material disclosed by *Mayr* is resistant to odor permeance. As above with the rejection of claim 1, the polyamide-polyethylene packaging material disclosed by *Mayr* also possesses high gas barrier properties (such as oxygen and carbon dioxide) and low water vapor transmission rates. Therefore, it would be expected that the polyamide-polyethylene

packaging material disclosed by *Mayr* meets the claimed requirements of high impermeability to gases, water vapor, and many diverse types of odorants.

14. Regarding claim 3, *Mayr* discloses that meat pieces of beef and pork were vacuum packaged individually in vacuum bagging film (polyamide-polyethylene [Packartis]) by evacuating the package (97 to 99% vacuum) and sealing (page 3, Packaging and Storage). *Mayr* also discloses the transmission rates of O_2 and CO_2 in the film which are 10 and 35 $cm^3\ m^{-2}\ 24h^{-1}\ 10^5\ Pa^{-1}$, respectively (page 3, Packaging and Storage) which is converted to 10 and 35 $cm^3\ m^{-2}\ 24h^{-1}$ bar.

15. Given that the transmission rates of O_2 and CO_2 taught by *Mayr* are within a reasonable range of the permeability ranges claimed by the applicant and the packaging material (polyamide-polyamide) is similar to that disclosed by the applicant, the method of *Mitsuda* in view of *Mayr* would intrinsically result in a vacuum packaged fish product with the permeability of nitrogen and water vapor as well as temperature resistance and sealing temperature ranges that are analogous to the ranges claimed by the applicant.

16. With respect to claim 4, the polyamide-polyethylene packaging material disclosed by *Mayr* has excellent resistance to odor and flavor permeance. As above with the rejection of claim 1, the polyamide-polyethylene packaging material disclosed by *Mayr* is also durable over a wide range of temperatures and has the ability to endure vacuum sealing temperatures. Therefore, it would be expected that the packaging material used by *Mayr* does not transmit odors and flavors independently of the temperatures to which they are subjected to, is highly resistant to physical stress and a wide range of

temperatures, and is flexible to adapt to surfaces of diverse shapes and textures as claimed by the applicant.

17. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over *Mitsuda et al.* US4396636 (hereinafter "*Mitsuda*") in view of *Mayr et al.* in "Rapid Detection of Meat Spoilage by Measuring Volatile Organic Compounds by Using Proton Transfer Reaction Mass Spectrometry", August 2003, Applied and Environmental Microbiology-Volume 69-Number 8, Pages 4697-4705 (hereinafter "*Mayr*") in further view of *Weerawardena et al.* GB 2360690 (hereinafter "*Weerawardena*"). *Mitsuda* in view of *Mayr* is relied upon as above with the rejection of claim 1.

18. *Mitsuda* in view of *Mayr* discloses a method for producing frozen-food from a fresh food, such as fish, shellfish, or meat (column 1, lines 4-6), and vacuum sealing the fish or meat product (page 3, Packaging and Storage). However, *Mitsuda* in view of *Mayr* does not disclose that the process is carried out in an industrial facility.

19. *Weerawardena* discloses an installation for preparing sliced fish or meat materials, including a continuous freezing conveyor for cryogenically freezing the sliced material from the cutting machine within a predetermined time (page 5, lines 27-30). More preferably, the slices are passed along a cryogenic freezing line, e.g. a tunnel having a conveyor which carries the sliced material past sprays or other arrangements for surface contact with cryogenic material such as nitrogen (page 5, lines 12-16). Preferably, it also includes a packaging machine downstream of the cryogenic freezing arrangement (page 5, lines 30-32). Typically, the frozen slices are packaged directly on

issue from the cryogenic tunnel, either interleaved on trays, vacuum packed, or in loose or pillow packs (page 8, line 17-19). Also, other preferred or optional features of the installation and apparatus appear from the method description above, as do suitable operating temperatures and temperature differences which the system may be adapted or programmed to maintain (page 6, lines 1-4).

20. It would have been obvious to a person of ordinary skill in the art at the time the invention was made to introduce the installation taught by *Weerawardena* to the production of frozen fish and meat taught by *Mitsuda* in view of *Mayr.*

21. One of ordinary skill in the art would have been motivated to do this because the facility would provide continuous processing of the frozen meat or fish in one convenient location. Transporting the product from one location to another in between steps may cause the fish or meat to rise to a temperature at which deterioration and discoloration could occur.

Response to Arguments

22. All specification objections are withdrawn (see pages 7-8 of Amendment).

23. The amendments made to claim 1 are acknowledged, and the 35 U.S.C. 112 rejections of claims 1-5 are withdrawn (see pages 8-9 of amendment).

24. Applicant's arguments filed October 9, 2009 have been fully considered but they are not persuasive.

25. Applicant argues that the presently claimed invention does not utilize a freezing medium (see page 20, 1st and 2nd paragraphs). However, independent claim 1 does not specify that a freezing medium is not required in the present invention.

26. In addition to this, the freezing medium disclosed by *Mitsuda* was used to keep the fish moderately cold, which was step b of the previous claims and has been deleted from the amended claims (10-9-2009). According to *Mitsuda*, the fish may be chilled by spraying the fish with the freezing medium (column 3, lines 3-5), immersing the fish into the freezing medium (column 3, lines 8-12), or blown with chilling medium such as gas from liquid nitrogen (column 3, lines 19-22) which does not require the use of the freezing medium.

27. Also the quick chilling process disclosed by *Mitsuda*, which refers to the initial quick freezing process disclosed in step b of the presently amended claims (10-9-09), is pformed by subjecting the fish to blowing nitrogen gas in order to obtain the temperature of -6°C in the center of the yellowtail (column 6, lines 56-59). It is well known in the art that quick freezing processes can be performed by immersing the food in a freezing liquid, indirectly contacting the food with the freezing solution, or blasting the food with cold air which was the method utilized by *Mitsuda*.

28. Applicant also argues that the water vapor permeability parameters of the packaging material disclosed by *Mayr* cannot be assumed based upon the permeability of CO_2 and O_2. *Mayr* teaches the meats were vacuum packaged in vacuum bagging film (polyamide-polyethylene [Packartis]) by evacuating the package (97 to 99% vacuum) and sealing (page 3, Packaging and Storage). *Mayr* also discloses the

transmission rates of O_2 and CO_2 in the film which are 10 and 35 cm^3 m^{-2} $24h^{-1}$ 10^5 Pa^{-1}, respectively (page 3, Packaging and Storage) which is converted to 10 and 35 cm^3 m^{-2} $24h^{-1}$ bar. As evidenced by *Day*, "Chilled Food Packaging, " 2000 (no month), Chilled foods: A comprehensive guide, Second Edition, page 145, high oxygen barrier materials with O_2 transmission rates of less than 15 cm^3 m^{-2} day^{-1} atm^{-1} are required when vacuum packaging chilled foods such as meats. Also, packaging materials with low water vapor transmission rates must be used. Typical vacuum packaging materials that have these features consist of coextruded or laminated films such as polyamide-polyethylene (PA/PE) (page 145, Vacuum Packaging (VP), section 6.4.2). PA/PE is consistent with the material taught by the prior art and the material disclosed by applicant. It is expected that this material has similar low vapor permeability as that recited in the instant claims. Applicant does not appear to process the PA/PE of the instant disclosure to further adjust or improve any characteristics thereof such as water vapor permeability. Mayr teaches PA/PE that is used in the packing of meat products and it is expected to have similar low water permeability to the PA/PE used in the instant disclosure, absent a showing otherwise.

Conclusion

29. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

30. A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

31. Any inquiry concerning this communication or earlier communications from the examiner should be directed to TYNESHA MCCLAIN-COLEMAN whose telephone number is (571)270-1153. The examiner can normally be reached on Monday - Thursday 7:30AM - 5:00PM Eastern Time.

32. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jennifer McNeil can be reached on (571)272-1540. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.
33. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/TYNESHA L MCCLAIN-COLEMAN/
Examiner, Art Unit 1794

/Jennifer C. McNeil/
Supervisory Patent Examiner, Art Unit 1794